

Work Order ID 97852

March-01-13 8:28:37 AM

April 15

\*97852\*

Page 1

Item ID: D350-591-113

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Heli-Access-Step, Short

Start Date: 3/01/13

Start Qty: 10.00

\*10\*

Cust Item ID:

Required Date: 4/19/13

Req'd Qty: 10.00

\*10\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2310

D

DSI 9525

A

0.00

100

\*100\*

DOCUMENT CONTROL

0.00

DC

Memo

Document Control

Photocopy bluefile & type labels per PPP D350-591-113

CHG005

DAS  
06  
9-89

13-4-19

(102)

for mls 13-4-12 (10)

0.00

110

\*110\*

Large Fab

0.00

Large Fab

Memo

Large Fab

1-Cut D2244 extrusion to 62.00" long as per Dwg D2310  
2-Drill extrusion as per Dwg D2310 using drill Jig DT8230  
3-Deburr

MJP 13/03/25

10 0 Ac 13-03-18

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[illegible]

# Work Order ID 97852

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Item ID: D350-591-113 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Heli-Access-Step, Short  
 Start Date: 3/01/13 Start Qty: 10.00 **\*10\*** Cust Item ID:  
 Required Date: 4/19/13 Req'd Qty: 10.00 **\*10\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 <b>*150*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							DAS 09 08
160 <b>*160*</b> HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00  0.00				10	0	13-04-08	13-04-08
170 <b>*170*</b> Large Fab Large Fab	Large Fab  Memo 1-Rivet as per Dwg D2310 2-Inspect for foreign object as per QSI 024 3-Weld Aft end cap as per Dwg D2310 A/R AL ROD Batch: 122324 4-Grind end cap welds flush	0.00  0.00				10	0	13-04-09 13-04-09 13-04-10	ATO-S 13-04-09 13-04-10

NCR: ☒ Yes ☐ No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQAS ☒ Date: 13/05/05QA Closed: ☒ Date: 13/4/29

Work Order: <u>97852</u>				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>D350-591-113</u>				Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input checked="" type="checkbox"/> (Steps) Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>					
NCR No. <u>13.2551</u>											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Material <input type="checkbox"/> Setup <input type="checkbox"/> Other <input type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Unapproved <input type="checkbox"/>	13/04/08	# 160	X1	Qty + step was left over night (12 hours) in the acid tank. R.C. employee mis-tracked at his amount of Part.		Scrap + Destroy Qty x1 And Replm B D2275 B 89745 D2244 B 89954	13.04.09 12.64 32.14	DAS 09 2-08 13.04.10	DAS 16 2-08 13/04/09		
FAULT CATEGORY											
Landing Gear			General								
<input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection incomplete <input type="checkbox"/> Instructions incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions								
			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other								
			P.C. 60A								

**\*97852\***

March-01-13 8:28:37 AM

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Cust Item ID:**

**Start Date:** 3/01/13      **Start Qty:** 10.00

**\*10\***

**Customer:**

**Required Date:** 4/19/13      **Req'd Qty:** 10.00

**\*10\***

**Reference:**

Run Start \*NR1\*

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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QC10- Inspect visual per QSI004- ground welds

0.00

**\*180\***

QC

## Memo

0.00

## Quality Control

(15) 13.04.10

QC5- Inspect part completeness to step on W/O

0.00

\*190\*

QC

## Memo

0.00

## Quality Control

⑩ 13-04-10

Chemical Conversion Coat per QSI005 4.1

0.00

**\*200\***

HandFinish

## Memo

0.00

## Hand Finishing

10 HGB 4/10

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Item ID: D350-591-113 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Heli-Access-Step, Short  
 Start Date: 3/01/13 Start Qty: 10.00 \*10\* Cust Item ID:  
 Required Date: 4/19/13 Req'd Qty: 10.00 \*10\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
*210*									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 12-50								
	OVEN TEMPERATURE: 320 F								
	FINISH TIME: 1-20								
220	Wing Walk as per dwg QSI005 4.4 Batch 125182	0.00							
*220*									
HandFinish	Memo	0.00							
Hand Finishing									
230	QC3- Inspect Part Finish	0.00							
*230*									
QC	Memo	0.00							
Quality Control									

LOX / M / 13/04/11

10 / 13-4-11

10

27  
13 4-12

M125069

# Work Order ID 97852

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Item ID: D350-591-113 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Heli-Access-Step, Short  
 Start Date: 3/01/13 Start Qty: 10.00 **\*10\*** Cust Item ID:  
 Required Date: 4/19/13 Req'd Qty: 10.00 **\*10\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	Pick Kit	0.00							
<b>*240*</b>									
Packaging	Memo	0.00							
Packaging									
250	QC4- 100% Inspect kits for completeness	0.00							
<b>*250*</b>									
QC	Memo	0.00							
Quality Control									
260		0.00							
<b>*260*</b>									
Packaging	PACKAGING RESOURCE #1	0.00							
Packaging	Memo								
	Identify and pack for shipping as per PPP D350-591-113								
	Location: <u>060</u>								

10 8 13-4-19

10x DAS 06 13-4-19

10 8 13-4-22

March-01-13 8:28:37 AM

**Item ID:** D350-591-113

**Accept**

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop \*NS2\*

**Item Name:** Heli-Access-Step, Short

**Start Date:** 3/01/13      **Start Qty:** 10.00

\*10\*

**Cust Item ID:**

**Required Date:** 4/19/13      **Req'd Qty:** 10.00

**\*10\***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

### Operation Description

### Set Up/ Run Hours

**Tool ID****Tool #****Plan  
Code**

**Accept  
Qty**

Reject  
QtyReject  
Number

**Insp.  
Stamp,**

270

QC21- Final Inspection - Work Order Release

0.00

\*270\*

QC

## Memo

0.00

## Quality Control

11B-01-23



# Picklist Print

March-01-13 8:28:36 AM

Page 1

Work Order ID: 97852

Parent Item: D350-591-113

Parent Item Name: Heli-Access-Step, Short

Start Date: 3/01/13

Required Date: 4/19/13

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:H04.11.09ReformatKJ/JLM  
DD verf:EC

IPP Rev:E as per ECN10-586 10.06.18

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
✓ D2244-116 Step Extrusion		Manufactured	No			110	Each	101.2105	1	10		13.03.15	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA		-0.0000368							
				WA003		101.2104894							
				60307		2							
				80803		19.2104894							
				89954		80							
✓ D2275 Bushing		Manufactured	No			130	Each	28.0000	1	10		13.03.15	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				003		4							
				86195		4							
				WA		24							
				89745		24							
D2582 Step Leg Assembly		Manufactured	No			170	Each	10.0000	1	10		13.04.09	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA003		10							
				89203		1							
				89747		9							
✓ D2673-34 End Plate		Manufactured	No			130	Each	44.0000	2	20		13.03.27	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA003		44							
				88900		44							
K591-113 Short Step Instln Kit		Manufactured	No			240	Each	0.0000	1	10		97853	

# Picklist Print

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Work Order ID: 97852

Parent Item: D350-591-113

Parent Item Name: Heli-Access-Step, Short

Start Date: 3/01/13

Required Date: 4/19/13

Start Qty: 10.00

Required Qty: 10.00



MS20600-AD4W3

Purchased

No

170

Each

1,363.0000

16

160

*Ar* 13.04.09

Cherry Rivets

## Location

## Loc Qty

## Loc Code

ST311

1230

122151

10

~~122452~~

7

123525

313

124231

900

WA003

133

107939

133

*160*

*160*

March-01-13 8:28:37 AM

Shop Packet Print

Page 2



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2310	REV. D SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH SHORT STEP ASSEMBLY	SCALE NTS
A	94.11.10	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	05.11.14	UPDATE FINISHING NOTE	

**D2310 HIGH SHORT STEP ASSEMBLY PARTS LIST**

Part No.	Description	QTY
D2310	High Short Step Assembly	X
D2244-62.0	STEP EXTRUSION*	1
D2275	BUSHING	1
D2582	STEP LEG ASSEMBLY	1
D2673-34	STEP END PLATE	2
MS20600AD4W3	Rivets	16

\*cut per drawing

1697852

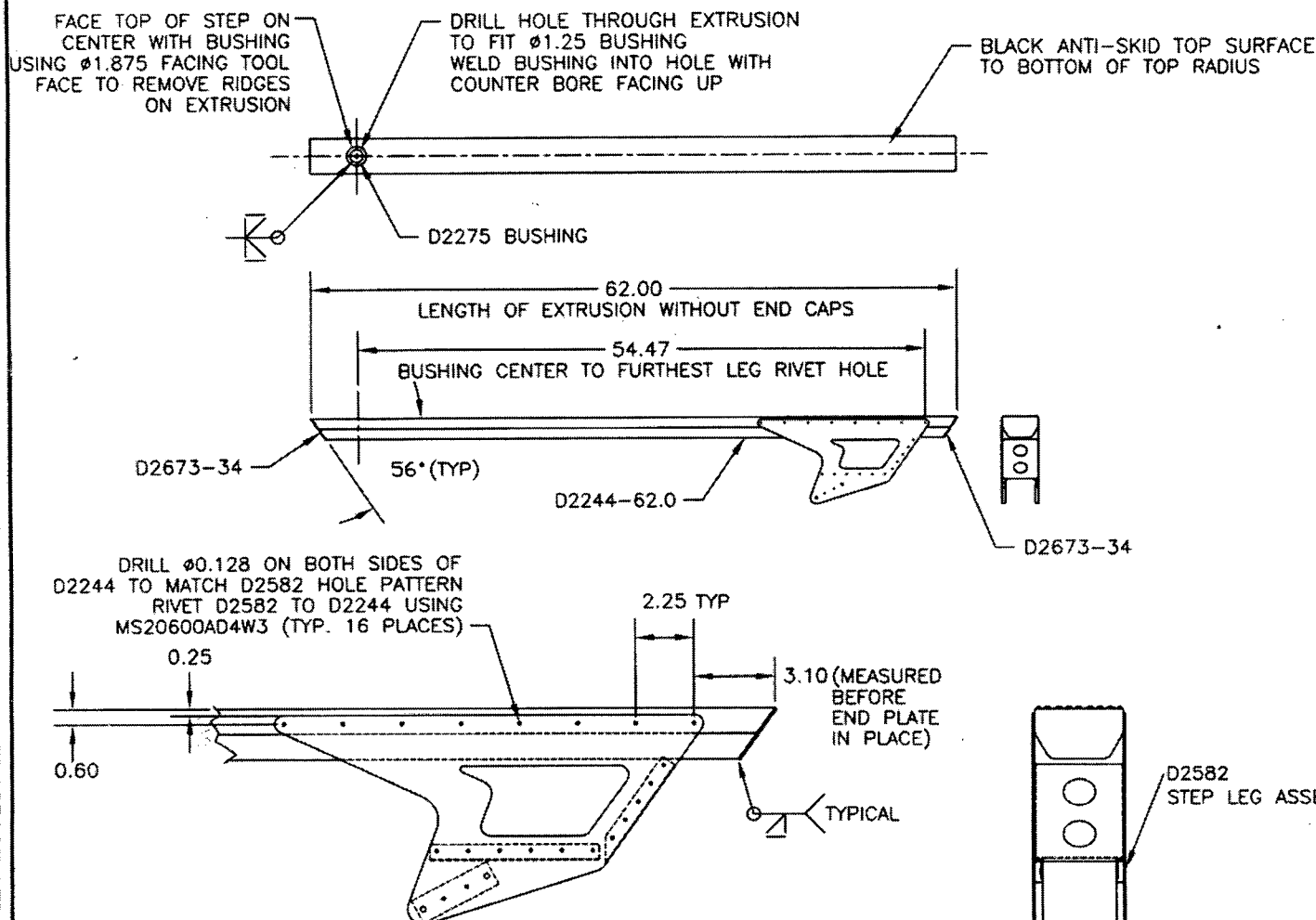
RELEASED  
05.11.28

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**DART**

DESIGN	KE	DRAWN BY	PH	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO. D2310
DATE	05.11.14	TITLE	HIGH SHORT STEP ASSEMBLY	REV. 0
		SCALE	NTS	SHEET 2 OF 2



## STEP LEG DETAIL

### D2310 HIGH SHORT STEP ASSEMBLY

- 1) MAKE FROM D2244 STEP EXTRUSION
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

**RELEASED**  
05.11.14